



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D412-786-021
Job Sheet 174002



Part No: D412-786-021

Job Qty: 2 ea

Part Name: Hard Point Wire Strike And Strake Compatible



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 3/8/18

Job Tracking No:

Due Date: 3/14/18

Created By: Linda Lacelle

Type: SOLD

Description:

Note: DWG REV C IPP REV:A 13.11.01 NEW ISSUE DD VERF:JLM

Ship Via:

DAS

10

9-89

CHG 002

DAS

21

9-89

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	2 Ea		3/14/18	0.00	0.00	Start Up Stores/Pkg-1		SMB
110	Packaging	2 pcs		3/14/18	0.00	0.00	Packaging1-5		SMB
120	QC	2 pcs		3/14/18	0.00	0.00	QC4		
125	DC	2 pcs		3/14/18	0.00	0.00	DC		DAS
130	Packaging	2 pcs		3/14/18	0.00	0.00	Packaging3-2		28
140	QC21-FG	2 Ea		3/14/18	0.00	0.00	QC21		7-89 fg 122

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D412-786-013	Fwd Hardpoint Installation	2 Ea (1 ea)	90-Start up Operation	5051703
D412-786-025	Tailboom Mount	2 Ea (1 ea)	90-Start up Operation	5052082

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D412-786-013	2	0	0
	D412-786-025	2	0	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

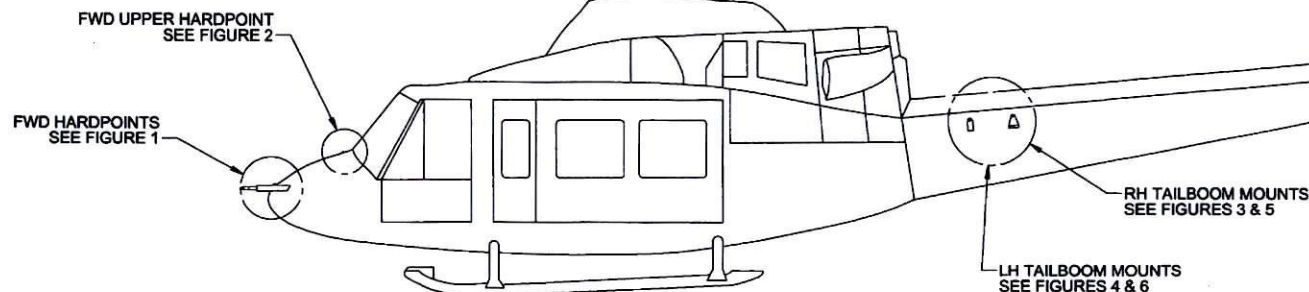
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; text-align: center;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																							
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Dart Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K6A 1K7 CANADA TEL.: 1 813 632-5200 Email: sales@dartaero.com www.dartaero.com Date: 03/16/18 Container No: S052306 Part: D412-786-021 Job No: 174002 Serial No/Batch: S052306 Revision: _____ Inspector: _____																																																																											
Root Cause <table style="width:100%; text-align: center;"> <tr> <td>Environment ☐</td> <td>Supplier ☐</td> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Positioned Wrong ☐</td> </tr> <tr> <td>Design ☐</td> <td>Training ☐</td> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td>Use for Testing ☐</td> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Poor Information ☐</td> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Rushing ☐</td> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Material ☐</td> <td>Product Improvement ☐</td> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Process Improvement ☐</td> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Manufacturing Process ☐</td> <td></td> <td></td> <td></td> <td>Finish ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Past Due ☐</td> <td></td> <td></td> <td></td> <td>Misread ☐</td> </tr> <tr> <td>Substation ☐</td> <td></td> <td></td> <td></td> <td></td> <td>Turning Sequence ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Misidentified ☐</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Environment ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Positioned Wrong ☐	Design ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Outside Dimensions ☐	Doc/Data ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Part Incorrect ☐	Handling/Pre ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Part Lost/Missing ☐	Material ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Part Moved ☐	Internal Transport ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Drawing ☐	Tribal Knowledge ☐	Manufacturing Process ☐				Finish ☐	LOA ☐	Past Due ☐				Misread ☐	Substation ☐					Turning Sequence ☐	Past Expiry Date ☐						Misidentified ☐						er Loss/Surge ☐ y/Program ☐ n ☐	
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REFERENCE ONLY



D412-786-011/-021 HARDPOINT KIT

QTY -011	QTY -013	QTY -015	QTY -021	QTY -025	PART NUMBER	DESCRIPTION
X					D412-786-011	HARDPOINT KIT
1	X		1		D412-786-013	FWD HARDPOINT KIT
1		X			D412-786-015	TAILBOOM MOUNT KIT
			X		D412-786-021	HARDPOINT KIT
			1	X	D412-786-025	TAILBOOM MOUNT KIT
		1			D3866-041	TAILBOOM MOUNT
		2			D3866-043	TAILBOOM MOUNT
1					D3870-041	FWD LH HARDPOINT
1					D3870-042	FWD RH HARDPOINT
1					D3870-5	FWD UPPER HARDPOINT
1					D3871-1	DOUBLER
1					D3871-2	DOUBLER
			1		D4950-041	TAILBOOM MOUNT
			2		D4950-043	TAILBOOM MOUNT
	10	12		12	MS21042L3	NUT
	8	12		12	MS27039-1-11	SCREW
	1				MS27039-1-12	SCREW
	1				MS27039-1-14	SCREW
	10	24		24	NAS1149D0332J	WASHER

NOTES:

- 1) D412-786-011/-021 HARDPOINT KIT REQUIRED ON 412/412EP AIRCRAFT UTILIZING D412-695-011 BLADE FOLDING KIT WHERE WIRE STRIKE COMPATABILITY IS REQUIRED
- 2) D412-786-021 HARDPOINT KIT REQUIRED ON AIRCRAFT EQUIPPED WITH BLR TAILBOOM STRAKE KIT
- 3) TOUCH UP ALL DRILLED HOLES AND TRIMMED ALUMINUM PARTS WITH ALODINE 1201. THEN PRIMER PER THE AIRCRAFT MAINTENANCE MANUAL
- 4) TORQUE FASTENERS AS FOLLOWS: 10-32; 20-25 IN-LBS
- 5) PRIME AND PAINT HARDPOINTS TO MATCH AIRCRAFT PAINT SCHEME PER AIRCRAFT MAINTENANCE MANUAL

RELEASED
2016-09-09
EN 16-699

REV.	DESCRIPTION	BY	DATE
D	SHT 1 UPDATE WORDING OF NOTE 3 FOR TRIMMED PARTS. SHT 7 ADD DETAIL E AND SECTION F-F (SEE PAR 16-501). WEIGHT AND BALANCE INFORMATION MOVED TO SHT 8.	AJS	16.06.07
C	MODIFY D3870-5 INSTALLATION INSTRUCTION. ADD TO NOTE 2, SH 3 AND CLARIFY/ CORRECT VIEW C-C (ZN A8-3, C3-3)	DB	14.04.28
B	ADD -021/-025 KITS, SHEETS 6 & 7	DB	13.10.17
A	NEW ISSUE	HS	09.01.14
DESIGN	HS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MB	DRAWING NO.	REV. D
MFG. APPR.	N/A	D412-786-1	SHEET 1 OF 8
APPROVED	HS	TITLE	SCALE
DE APPR.	N/A	HARDPOINT KIT INSTALL	NTS
DATE	16.06.07	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

APPROVED

Change Record

PAGE 1 OF 1

Part Number: D412-786-021

Description: HARDPOINT INSTALLATION

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					